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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/079,956

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Roberto Padovani

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QUALCOMM INCORPORATED
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EXAMINER

HO, DUC CHI

ART UNIT

PAPER NUMBER

2465

NOTIFICATION DATE

DELIVERY MODE

03/17/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/079,956	Applicant(s) PADOVANI ET AL.	
	Examiner DUC C. HO	Art Unit 2465	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,10-22,24-28,30-43 and 46-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-4, 7-10, 14-22, 24-28, 30-43, 46 is/are rejected.
- 7) ☒ Claim(s) 5,6,11-13 and 47-49 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Allowable Subject Matter

1. The indicated allowability of claims 3-4, 10, 14-18, 19-22, 24-28, 30-41, and 46 are withdrawn in view of the newly discovered reference(s) to the Admitted Prior Art. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 3-4, 7, 10, 14, 19-20, 22, 24, 27-28, 42-43, 46 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rich (US 5,940,452), in view of the

Admitted Prior Art of the instant application, paragraphs 1002-1005, hereinafter referred to as the APA.

Regarding claim 1, Rich discloses dual mode radio subscriber unit having a diversity receiver apparatus and method therefore. In Rich a radio system 100-fig.1 comprising a first antenna 114, a second antenna 116, a receiver 126 common to both antennas 114 and 116 and a controller 108. The controller controls a selected state of the first/second antenna responsive to at least one of a ratio (E_c/I_o), in which the ratio is one of the characteristic of a pilot channel, see col. 4, lines 32-42, and col. 4-line 62 to col. 5-line 58.

a receiver, including a plurality of receiver chains (a radio system 100-fig.1 comprising a first antenna 114, a second antenna 116, see col. 4, lines 32-42, and col. 4-line 62 to col. 5-line 58), for receiving a pilot channel and determining a channel condition of said pilot channel (The controller 108-fig.1 of the receiver controls a selected state of the first and the second antenna responsive to a pilot channel having a ratio (E_c/I_o) as one of its characteristic, see steps 206, 212, col.13-line 50 to col.15-line 20).

a control system (a controller 108-fig.1) for controlling receive diversity and power consumption of said receiver by selecting a number of said plurality of receiver chains based on said determined channel condition (the controller 108-fig.1 selects either the first antenna or the second antenna responsive to the ratio E_c/I_o of the pilot channel, see step 210. The selection of one antenna reflects the power consumption of a single antenna of the receiver), *wherein said control system is configured for reducing said number of selected receiver chains when said determined channel condition is above a first channel condition threshold* (in response to a channel condition of Integral RSSI greater than a predetermined threshold, the controller selects one antenna from

parallel configuration of antennas, see steps 202-206, fig.2, see col. 13-line 50 to col.15-line 20);

Rich, however, does not expressly mention receiver chain.

The APA discloses a receiver chain for signals received at each antenna may be necessary. Therefore, multiple receiver chains may be necessary to exploit the multi path signals received at multiple receive antennas, see 1002.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to employ a receiver chain for each antenna as taught by the APA into the system of Rich. The suggestion/motivation for doing so would have been to exploit the multi path signals received at multiple received antenna for improving reception of communication signals sent from the base station.

Regarding claim 3, the controller 108-fig.1 of Rich selects a third selected state which includes the operation of both receiver chains of the APA for both antennas 114/116-fig.1 in response to step 316-NO, fig.3, which corresponds to the claimed “a channel condition is below a second channel condition threshold”.

Regarding claim 4, please see the rejection of claim 3. In step 316-YES, fig.3 the Intg.RSSI in register two corresponds to the Intg.RSSI-202, fig.2, which corresponds to a stronger channel condition than Intg.RSSI in register one, step 316-fig.3.

Regarding claim 7, this claim has similar limitations as claim 1. Therefore, it is rejected under Rich-the APA for the same reasons set forth in the rejection of claim 1.

Regarding claim 10, this claim has similar limitations as claim 4. Therefore, it is rejected under Rich-the APA for the same reasons set forth in the rejection of claim 4.

Regarding claim 14, this claim has similar limitations as claim 7. Therefore, it is rejected under Rich-the APA for the same reasons set forth in the rejection of claim 7. The APA discloses determining a data bit of QPCH when the mobile detects the bit at "0" or "1" that is based on the receive diversity. If the mobile station detects "1", the mobile station assigns its resource to monitor other related channels - this is a case of power consumption, see the APA at 1004-1005. Regarding claim 15, the APA discloses switching the mobile station to a sleep mode when the data bit is a "0", see 1004.

Regarding claim 19, this claim has similar limitations as claim 14. Therefore, it is rejected under Rich-the APA for the same reasons set forth in the rejection of claim 14.

Regarding claim 20, this claim has similar limitations as claim 15. Therefore, it is rejected under Rich-the APA for the same reasons set forth in the rejection of claim 15.

Regarding claim 22, this claim has similar limitations as claims 14 and 16. Therefore, it is rejected under Rich-the APA for the same reasons set forth in the rejection of claims 14 and 16.

Regarding claim 24, this claim has similar limitations as claim 20. Therefore, it is rejected under Rich-the APA for the same reasons set forth in the rejection of claim 20.

Regarding claim 27, this claim has similar limitations as claim 14. Therefore, it is rejected under Rich-the APA for the same reasons set forth in the rejection of claim 14.

Regarding claim 28, this claim has similar limitations as claim 15. Therefore, it is rejected under Rich-the APA for the same reasons set forth in the rejection of claim 15.

Regarding claim 42, this claim has similar limitations as claim 1. Therefore, it is rejected under Rich-the APA for the same reasons set forth in the rejection of claim 1.

Regarding claim 43, this claim has similar limitations as claim 7. Therefore, it is rejected under Rich-the APA for the same reasons set forth in the rejection of claim 7.

The system of Rich should include a computer-readable storage medium for storing instructions to perform the claimed steps.

Regarding claim 46, this claim has similar limitations as claims 1 and 10. Therefore, it is rejected under Rich-the APA for the same reasons set forth in the rejection of claims 1 and 10.

Regarding claim 50, this claim has similar limitations as claim 1. Therefore, it is rejected under Rich-the APA for the same reasons set forth in the rejection of claim 1.

5. Claims 16-18, 21, 25-26, 30-32, 34-35, 36-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rich, in view of the APA, and further in view of Willey (US 6,505,058).

Regarding claim 16, Rich and the APA disclose all claimed limitations, except determining a second data bit of the QPCH received at the mobile station when the determined first data bit is either a one or an erasure.

Willey discloses a method for determining whether to wake up a mobile station. The mobile station receives a QPCH bit representing by "On" (corresponding to 1), "Off" (corresponding to zero), and "not certain" (corresponding to erasure) means that the mobile is not certain whether or not the base station transmitted the bit, see col.5- line 45 to col.6-line 7.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to employ a determining of an erasure bit as taught by Willey into the combined system of Rich and the APA. The suggestion/motivation for doing so would have been to provide a mobile station an indication to ensure whether the base station

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has transmitted the bit or not so that the mobile station may not need to decode the QPCH data, resulting in efficient use the battery power resource.

Regarding claim 17, the APA discloses using the battery power resources for decoding the QPCH when the bit is "1", or "an erasure" as taught by Willey.

Regarding claim 18, the APA discloses the mobile station is at sleep mode when the bit is "0", see 1004.

Regarding claim 21, this claim has similar limitations as claims 16-18. Therefore, it is rejected under Rich-the APA-Willey for the same reasons set forth in the rejection of claims 16-18.

Regarding claim 25, this claim has similar limitations as claims 16. Therefore, it is rejected under Rich-the APA-Willey for the same reasons set forth in the rejection of claim 16.

Regarding claim 26, this claim has similar limitations as claim 18. Therefore, it is rejected under Rich-the APA-Willey for the same reasons set forth in the rejection of claim 18.

Regarding claim 30, this claim has similar limitations as claims 25. Therefore, it is rejected under Rich-the APA-Willey for the same reasons set forth in the rejection of claim 25.

Regarding claim 31, this claim has similar limitations as claim 26. Therefore, it is rejected under Rich-the APA-Willey for the same reasons set forth in the rejection of claim 26.

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Regarding claim 32, this claim has similar limitations as claims 22 and 25. Therefore, it is rejected under Rich-APA-Willey for the same reasons set forth in the rejection of claims 22 and 25.

Regarding claims 34-35, these claims have similar limitations as claims 32-33, respectively. Therefore, they are rejected under Rich-APA-Willey for the same reasons set forth in the rejection of claims 32-33.

Regarding claim 36, this claim has similar limitations as claims 22, 24 and 25. Therefore, it is rejected under Rich-APA-Willey for the same reasons set forth in the rejection of claims 22, 24 and 25.

Regarding claim 37, the APA discloses using the battery power resources for decoding the QPCH when the bit is "1".

Regarding claim 38, this claim has similar limitations as claims 35 and 37. Therefore, it is rejected under Rich-APA-Willey for the same reasons set forth in the rejection of claims 35 and 37.

Regarding claims 39-41, these claims have similar limitations as claims 34, 37, 38, respectively. Therefore, they are rejected under Rich-APA-Willey for the same reasons set forth in the rejection of claims 34, 37, 38.

Allowable Subject Matter

6. Claims 5-6, 11-13, 47-49 are objected to as being independent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments with respect to claims 1, 7, 42, 43 and 50 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Ho whose telephone number is (571) 272-3147. The examiner can normally be reached on Monday through Thursday from 7:30 am to 6:00 pm.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel, can be reached on (571) 272-2988.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2600.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner

/DUC C HO/

Primary Examiner, Art Unit 2465
03-03-2010